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L17

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**Search History****DATE:** Wednesday, July 09, 2003 [Printable Copy](#) [Create Case](#)

Set Name Query  
 side by side

*DB=USPT; PLUR=YES; OP=ADJ*

L17 l16 and l15

1 L17

L16 ('5295236')[PN]

1 L16

L15 L14 and spot near1 color

56 L15

L14 ((101/\$)!.CCLS.)

49484 L14

*DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ*

L13 l12 and l11

1 L13

L12 ('5613046')[ABPN1,NRPN,PN,WKU]

2 L12

L11 l3 and spot near1 color near10 (house or special)

38 L11

*DB=USPT; PLUR=YES; OP=ADJ*

L10 l8 and ((101/\$)!.CCLS.)

29 L10

*DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ*

L9 spot near1 color near5 print\$ near5 unit

18 L9

L8 spot near1 color near5 print\$

313 L8

L7 l6 and spot

0 L7

L6 ('5528986' | '5528987' | '5136943')[ABPN1,NRPN,PN,WKU]

6 L6

L5 (fifth or 5th) near3 print\$ near2 unit

75 L5

L4 spot near1 color same (fifth or 5th)

17 L4

L3 spot near1 color

1948 L3

L2 5778779.pn.

2 L2

*DB=USPT; PLUR=YES; OP=ADJ*

L1 5778779.pn.

1 L1

END OF SEARCH HISTORY

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## Search Results - Record(s) 1 through 1 of 1 returned.

 1. Document ID: US 5613046 A

L13: Entry 1 of 1

File: USPT

Mar 18, 1997

DOCUMENT-IDENTIFIER: US 5613046 A

TITLE: Method and apparatus for correcting for plate misregistration in color printing

US Patent No. (1):5613046Brief Summary Text (4):

The field to which the invention applies is the electronic processing of graphic images to produce multi-color output using offset or other printing methods. Images are obtained electronically by digital scanning of photographic material and combined with "structured graphics" to provide composed images or pages which are then separated into monochromatic images each corresponding to an ink to be used in the printing process. Typically, four process color inks, cyan, magenta, yellow and black are used, although special "spot" colors can be used instead of or in addition to the process color inks. The separated images can then be output to photographic films from which printing plates are made. Alternatively, the separated images can be used to produce engraved cylinders from which gravure prints can be made.

Detailed Description Text (3):

The trapping procedure takes place within the trapping module 124, which uses the STRUCTURED GRAPHIC IMAGE 120 as input, and produces a TRAPPED GRAPHIC IMAGE 126 compensated for potential misregistration problems. The procedure can operate automatically or under optional control of user 122 through a user interface to the trapping module 124. The trapped graphic image 126 is input to an assembly and separation module 128, which creates color-separated images including the screened halftone representations of scanned images 114 used as the "fill color" for regions of the document page layout in which they are to appear. In the example of FIG. 1, four process color separations 130, designated c (cyan), m (magenta), y (yellow) and k (black) are shown, although in practice special "spot" color inks, varnishes, embossing, etc. can be used instead of or in addition to the process colors 130.

Detailed Description Text (5):

In FIG. 2 and the following figures, a simple example of a STRUCTURED GRAPHIC IMAGE 200 is shown, for the purpose of illustration. The STRUCTURED GRAPHIC IMAGE 200 is made up of two rectangular objects, a "red" object 210 which partially obscures a "blue" object 220. In FIG. 2A, the printed result is shown as it would appear with perfect registration. In FIG. 2B, the printed result is shown in the case of a slight misregistration of the printing plates used to print the (two or more) inks required. If spot" colors are used for the "red" and "blue" inks, the example shows the effect of a slight shift of the "blue" plate up and to the right with respect to the "red" plate, resulting in a visible white line 230 at the boundary between the red region 210 and the blue region 220. Note that herein the term "white" refers to the color of the medium on which the image is printed. If the process colors cyan, magenta, yellow and black are used, the example shows the effect of a slight shift of the cyan plate up and to the right with respect to the magenta plate, resulting in a visible yellow line 230 (assuming no black component of the colors "red" and "blue").

Detailed Description Text (48):

The BOUNDARY MAP of TABLE 3 is initially defined (and retained) without assignment of line characteristics for each boundary of which it is comprised. In FIG. 14A and 14B, the assignment of line characteristics according to two trapping options is shown for the simple case in which the objects of FIG. 2 are filled with spot colors. In FIG.

14A, the boundary map segments which border the "red" object 210 and the "blue" object 220 are given a stroke width and offset in the direction of the "red" object 210, and fired with the "blue" color, thereby effecting a trap which spreads the "blue" object 220 toward the "red" object 210. The TRAPPING MAP resulting from this operation is given in TABLE 5, consisting only of the two line segments for which the above characteristics are defined.

Detailed Description Text (54):

The examples given above assume the simple case in which the colors of the "red" object and the "blue" object 220 of FIG. 2 are printed with two spot color plates, one printing the "red" ink, and the other the "blue" ink. The following discussion considers the more general case in which process colors (cyan, magenta, yellow and black) are used. It should be noted that the BOUNDARY MAP generated by the method of the invention is identical, and independent of choice of colors, number of printing plates, or similar decisions involved in the realization of the colors, previously noted as "red" and "blue".

Detailed Description Text (55):

Process colors are created by printing layers of the PROCESS PRIMARY COLORS cyan, magenta, yellow and black in different percentages, possibly in combination with spot colors, embossing or varnishes. Each layer is printed by a separate printing plate. During the printing process these plates can misregister creating different combinations of color. The present discussion is limited to printing using just the four PROCESS PRIMARY COLORS, with a single process color represented by a tuple  $(c, m, y, k)$ , where each element in the tuple is a number ranging from 0 to 100 giving the percentage of that color. For example, a green made up of 100 percent cyan and 100 percent yellow is represented as  $(100, 0, 100, 0)$ . Since each point on a printing plate representing a given color is capable of printing either 0% ink or 100% ink, the values for solid (unscreened) colors must be 0 or 100. For tints and degrees which are to be rendered using halftone screens, any value on the range 0% to 100% can be used.

Detailed Description Text (60):

Specification of a trap for a BOUNDARY MAP line segment using process colors to fill the stroke associated with the line segment is similar to that of the spot color examples given previously. FIG. 17A and 17B illustrate the effect of specifying a trap fill color in terms of the PROCESS PRIMARY COLORS cyan, magenta, yellow and black, and the result when rendered as four separations. In FIG. 17A, the logical view of the process is shown, corresponding to the superposition of the TRAPPING MAP 1760 upon the untrapped image 1700 at the boundary 1730 between one region of color  $(c1, m1, y1, k1)$  1710 and a second region of color  $(c2, m2, y2, k2)$  1720. For a trap fill color  $(cT, mT, yT, kT)$  1750 with non-zero percentages for the components, the effect is that of replacing the corresponding components within the TRAP ZONE 1740 projected upon the rendered color separations of the trapped image 1770, as shown in FIG. 17B.

Detailed Description Paragraph Table (17):

TABLE 15

TRAPPING SYSTEM CONFIGURATION PARAMETERS Parameter Option Description

	Operation
Fully Auto-	No operator review or interaction with Mode matic processing other than start and stop.
Semi-auto-	Automatic with user view of each candi- matic date trapping map as generated, with option to override and/or to preserve manual changes.
Completely manual	specification of traps.
Process Separations	Output Process Select one or more process separations
Rendering Separations	from the set: cyan, magenta, yellow, black.
Spot Colors	Specify <u>spot</u> colors instead of or in addition to process colors
Set of processing options for <u>spot</u> colors	Spot Options
Image Untrapped	Show the original structured graphic image
Display Image	without any traps applied.
Candidate	Show the original image with the candidate Trapped trapping map superimposed.
Image Candidate	Show the candidate trapping map only, Trapping Map without the original image.
Colors Select	Colors Select some or all separations to show, Displayed or grey scale.
Runtime FLAT	Maximum error of line segment to be
Parameters	Parameters Parameter generated to represent an arc of a curve, specified in output resolution elements.
Default Values	Default trap stroke characteristics and other parameters.

CLAIMS:

13. The method of claim 11 in which the combination of printing plates includes SPOT colors.

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## Search Results - Record(s) 1 through 1 of 1 returned.

 1. Document ID: US 5295236 A

L17: Entry 1 of 1

File: USPT

Mar 15, 1994

DOCUMENT-IDENTIFIER: US 5295236 A

\*\* See image for Certificate of Correction \*\*

TITLE: Applying traps to a printed page specified in a page description language format

US Patent No. (1):5295236Brief Summary Text (6):

For many years, the preferred process for color printing on paper has been to process the page in multiple exposures, or separations. Each separation exposes selected areas of the paper to an ink of a different color--the usual process ink colors are cyan, magenta, yellow and key (CMYK). Additional color inks are often used as spot colors in additional separation.

Brief Summary Text (9):

With the current widespread use of computers in publishing, various systems now perform choking and spreading electronically. The usual approach is to first render the page in pixels at the desired output resolution and to store the rendition in a memory referred to as a "frame buffer". Typically, a frame buffer is assigned to each of the four process separations. If spot colors are used, additional frame buffers are necessary for each of these as well. Each frame buffer is then choked and spread on a pixel-by-pixel basis, and then used to control the printing of its respective color. While this approach requires a frame buffer for each of the output inks, the cost of such hardware is justified in newspaper and magazine publishing.

Current US Cross Reference Classification (1):101/248[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)[KWIC](#) [Drawn Desc](#) [Image](#)[Generate Collection](#)[Print](#)

Terms	Documents
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L Number	Hits	Search Text	DB	Time stamp
1	331	(101/182 or 101/184 or 101/185).ccls.	USPAT; US-PGPUB	2003/07/09 10:56
2	15	((101/182 or 101/184 or 101/185).ccls.) and (fifth or 5th or spot)	USPAT; US-PGPUB	2003/07/09 10:54
3	93	(101/184).ccls.	USPAT; US-PGPUB	2003/07/09 10:58
4	18	((101/182 or 101/184 or 101/185).ccls.) and five	USPAT; US-PGPUB	2003/07/09 11:01
5	50632	101/\$.ccls.	USPAT; US-PGPUB	2003/07/09 11:01
6	111	101/\$.ccls. and (five) near3 (unit or station)	USPAT; US-PGPUB	2003/07/09 11:01
9	1	5617788.pn. and color	USPAT; US-PGPUB	2003/07/09 11:29

	Document ID
1	US 3869983 A
2	US 6019039 A
3	US 5732631 A
4	US 5638752 A
5	US 5622113 A
6	US 5617788 A
7	US 5526108 A
8	US 5036764 A
9	US 4528630 A

US-PAT-NO: 5617788

DOCUMENT-IDENTIFIER: US 5617788 A

TITLE: Switching type continuously  
operative printing machine

----- KWIC -----

US Patent No. - PN (1):  
5617788

Detailed Description Text - DETX (4):

The off-set rotary press 10 has five printing units 11 to 15 as shown from the right side in FIG. 1. A printing web (continuous printing web) 16 is passed through the individual printing units 11 to 15. The individual printing units 11 to 15 internally include printing cylinders 11A to 15A with printing plates thereon and blanket cylinders 11B to 15B for effecting printing on the web 16 with ink transferred from the plate cylinders 11A to 15A.

Detailed Description Text - DETX (49):

The other way is a straight web passage, in which the web 16 is passed straight in the sectional view (as shown by phantom line in FIG. 1). This way of web passage is suited for printing by using all the five printing units 11 to 16, for instance with a feature of gold or silver color added to the usual four-color printing. The straight web passage is the usual way of web passage, in which the web 16 passed through the five printing units 11 to 15 is straight over the entire printing units.

Detailed Description Text - DETX (75):

With the above printing with alternate use of the printing units 11 and 12, in this embodiment five-color printing is done by using all the printing units 11 to 15 in the following procedure.

Detailed Description Text - DETX (76):

When carrying out five-color printing by adding a feature of gold color, silver color, etc. to the ordinary four-color printing, in the printing units 11 and 12 the guide rollers 200 and 201 are held in the straight web passage disposition to pass the web in the straight web passage. That is, the web 16 is passed straight over the five printing units 11 to 15.

Detailed Description Text - DETX (77):

At this time, the one-point clutches 100 and 101 are both coupled, and the five printing units 11 to 15 are all driven from the main motor 31, while the blanket cylinders 11B and 12B are in the contact state (i.e., printing state). The electromagnetic clutches 120 and 121 are decoupled, and the sub-motors 128 and 129 are held stationary.

Detailed Description Text - DETX (102):

Further, while the above embodiment of the printing machine 10 has five printing units 11 to 15 including two switchable printing units 11 and 12, the switching type continuously operative printing machine according to the invention may any number of printing units so long as it has a plurality of printing units; for instance, it may have two to four or six or more printing units.

Claims Text - CLTX (8):

2. The switching type continuously operative printing

machine according to  
claim 1, wherein the plurality of printing units are five  
printing units  
including two switchable printing units.

Current US Original Classification - CCOR (1):  
101/181

Current US Cross Reference Classification - CCXR (1):  
101/228